

Joel E. Lubin
Regulatory Vice President
Government Affairs

Room 5460C2 295 North Maple Avenue Basking Ridge, NJ 07920 908 221-7319 FAX 908 221-4628

June 28, 1996

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. William F. Caton Acting Secretary Federal Communications Commission 1919 M Street, N.W., Room 222 Washington, D.C. 20554

Re: Ex-Parte Erratum - CC Docket No. 96-98 and CC Docket No. 96-45

Dear Mr. Caton:

Attached is a correction to the spreadsheet analysis that AT&T filed in an Ex-Parte on June 21, 1996. The original spreadsheet included an input sheet that will enable the user to vary inputs for factors affecting the quantification and funding of subsidies and the unbundled network elements. This correction modifies the manner in which one of those factors, incremental changes to Subscriber Line Charges (SLC), is applied to the Base Case analysis. The correction does not impact the results of the Base Case analysis because this analysis didn't change the SLC.

In addition to this erratum, the attached spreadsheet also contains clarifications to facilitate its use as a simulator of the Hatfield Model applied to universal service reform. These clarifications include:

- 1. The output line labeled Monthly Local Service TSLRIC Hatfield is relabeled as an approximation to the Hatfield Model's output. These outputs may be updated upon the availability of Hatfield Model results for the TSLRIC of local service.
- 2. The input factors of "Cost of Capital" and "Variable Overhead" have been modified to measure increments off of the Base Case analysis, similar to the application of Subscriber Line Charges.

Once again, none of these changes affect the results of the Base Case analysis because above parameters were not changed for the base case.

In accordance with Commission Rule 1.1206(a)(1), two copies of computer diskettes containing the spreadsheet, along with printed output reports are being filed with you for inclusion in the public record. A copy of this transmittal letter is provided for this purpose. Please contact me if you have questions.

Sincerely,

Joel E. Lubin

**GA Vice President** 

Attachments

cc:

J. Farrell

J. Olson

T. Koutsky

G. Rosston

### Description of:

# "SUBSIDY" MODEL FOR EVALUATING THE SIZE AND RECOVERY OF ALTERNATIVE UNIVERSAL SERVICE FUNDING OPTIONS

#### 1. Introduction

This model was developed for the purpose of evaluating various options for the composition and recovery of universal service funding requirements to be implemented in the months to come. It has been structured to utilize, to the maximum extent possible, publicly available data. As presently structured, it has the capability to evaluate a wide variety of alternative plans, of which computations have been done for only a few. The model could accommodate, if so desired, many more alternatives with the addition of appropriate data.

The model was built using Microsoft Excel<sup>®</sup> Version 5.0 The sections below describe the various worksheets of the model and the data contained therein.

### 2. Worksheet "Inputs"

The purpose of this Worksheet is to provide one area to change all parameters required to define a given scenario to be evaluated. Some of the currently defined parameters relate only to very specific scenarios, others are essential to every scenario. Additional inputs may be defined and added to this worksheet as new scenarios are defined.

#### 3. Worksheet "Hatfield"

This worksheet contains, as a key input segment of the model, inputs from the "Hatfield Model".

The data is formatted in a manner similar to that displayed in the Hatfield Model documentation. These inputs are copied into the Subsidy Model in Cells A56 through AO110.

The worksheet area immediately above the raw Hatfield data provides the capability to vary, within the Subsidy Model, the assumptions of the Hatfield Model with regard to cost of capital, taxes and overhead. This capability works by backing out, or removing, the components of annual cost attributable to cost of capital and/or overhead based on values in the Hatfield Model and inserting test values as shown as "Deltas" in the Inputs Worksheet. As long as the Delta Cost of Capital and Delta Overhead inputs on Worksheet "Inputs" are set to zero, there will be no change to the Hatfield data as entered.

Columns AP through AV contain monthly Local Service TSLRIC values by density zones. The cells contain formulas developed to approximate Hatfield methodology and will compute values which reflect the Subsidies Model values for cost of capital and overhead.

Column AY contains the national average monthly affordable residential local service rate (including SLC and TouchTone) as defined in Sheet "Inputs", Cell B21. (Note that this rate will change for any scenarios which reflect a change in the monthly SLC rate, but not, in the current configuration of the model, for any other changes).

<sup>&</sup>lt;sup>1</sup> The current inputs and their purpose are described in Appendix B. Development of retail revenues from the 1994 TRS Reports is described in Appendix C.

<sup>&</sup>lt;sup>2</sup> See Reply Comments of AT&T, CC Docket 96-98, Attachment D, May 30, 1996.

Columns AZ through BF compute the "national" subsidy for each state in each density zone based on the product of the units (households with telephones) and the difference between the Hatfield monthly TSLRIC cost and the national affordable rate. If the difference is less than zero, the value of the subsidy is zero. One other exception is that if the national affordable rate is less than the ACTUAL rate in the state, the "national" subsidy will be calculated as the difference between the Hatfield monthly TSLRIC cost and the actual rate in the state.

Columns BG through BM contain the actual state residential rates (including SLC and TouchTone)<sup>3</sup>. Likewise, scenarios which prescribe a change in the monthly SLC rate will cause the "actual" state rates to change also.

Columns BN through BT compute the subsidy for each state in each density zone based on the difference between the Hatfield monthly TSLRIC cost and the actual state rate. If the difference is less than zero, the value of the subsidy is zero. If the national affordable rate is less than the ACTUAL rate in the state, the "national" subsidy and the subsidy calculated on the basis of the actual state rate should be equal.

Columns BU through CA compute the optional state subsidy. This is intended as an option for state regulators in states where the actual rate is LESS than the affordable national rate, to recover the difference between the "national" subsidy and the subsidy as computed on the basis of the actual state rate. Thus, the sum of the "national" subsidy and the optional state subsidy should always equal the subsidy calculated on the basis of the actual state rate. However, where the vertical service revenue option is "on", the subsidy will be based on the difference between the national affordable rate and the actual state rate INCLUDING average vertical service revenue.

#### 4. Worksheet "ARMIS"

Worksheet "ARMIS" contains selected data from Tier 1 LEC ARMIS reports which may serve as a basis for evaluating the magnitude of various subsidies and the efficacy of various recovery options. The ARMIS data in the Subsidies model is as reported by the LECs for calendar year 1995. Lines 1 through 122 of Worksheet "ARMIS" contain all Tier 1 ARMIS data in AT&T's possession as of June 1, 1996. There are a few omissions of which AT&T is aware, e.g., Rochester Telephone. This data can be easily inserted when acquired by AT&T (or any other user of the model). Lines 140 through 190 sum the Tier 1 data to include all Tier 1 companies by state. Lines 240 through 290 sum the data to conform with current Hatfield data, i.e., the single largest LEC, usually a BOC, for each state. The Subsidy model has a switch to permit the use of either of these data sets (see Worksheet "Inputs", Line 9). However, unless and until the Hatfield inputs are updated to include non-RBOC data, it is recommended that the switch be left in the BOC position.

Columns B through J contain data on calls and minutes of use from ARMIS 43-08. Along with the DEM percentages contained in Column K, this data is used to approximate total inter and intrastate minutes of use. Columns R through U contain access revenue data from ARMIS 43-03. This data is used in the calculation of switched access cost per MOU. Columns AA and AB contain the Residence and Business Access Lines by state. Columns AD through AF contain LEC retail, local and toll revenue, respectively. This revenue data is used in the calculation of various hypothetical subsidy recovery alternatives, such as the optional state specific alternative. Columns AL through AO contain penetration percentages by state and residential line data for 1990 and 1995 from the ARMIS 43-01 Report. This information is used to develop a factor to convert 1990 household data into 1995 households with telephones, i.e., households or "primary lines" eligible for a subsidy.

<sup>&</sup>lt;sup>3</sup>Appendix A, Attachment 1 displays the local rates, including SLC and TouchTone, for each density zone of each state and the weighted average rates for each state and each density zone.

#### 5. Worksheet "Subsidies"

Worksheet "Subsidies" combines data from other worksheets in the model plus some additional data to compute the size of various subsidies based on parameter values specified in Worksheet "Inputs" for the scenario being evaluated.

Line 5 contains the "Economic Subsidy" as computed for each state in Worksheet "Hatfield". Lines 11 through 29 contain the elements of subsidy required to keep non Tier 1 LECs in the same universal service position they were in at the initiation of the recovery mechanisms. These elements include USF, Lifeline/Linkup, DEM weighting, Long Term Support and the difference between the existing non Tier 1 weighted average switched access rate and the Tier 1 switched access rate. The data shown in Worksheet "Subsidies" for non Tier 1 LECs is considered preliminary and is not used in the calculations in this version of the model. Lines 33 through 35 contain current BOC Lifeline/Linkup amounts. Subsidy options can be evaluated based on any combination of the amounts represented by the economic subsidy, non Tier 1 and Lifeline/Linkup. Lines 39 and 40 contain data for two potential offsets to be deducted from the calculated subsidy, Cellular License Value and Interstate Overearnings (the difference between actual 1995 interstate earnings and interstate earnings at 11.25% R/R). If the combination of these two offsets is greater than the calculated subsidy, then there is no subsidy funding by means of tlelphony revenues. Line 43 contains the optional state subsidy amounts as calculated on Worksheet "Hatfield." Line 44 contains a potential offset to the state subsidy, Yellow Pages earnings. The estimated excess nationwide Yellow Pages earnings, (\$2B) have been allocated to the individual states on the basis of residence and business lines. If the difference between the optional subsidy for a specific state and that state's allocated excess Yellow Pages earnings is less than zero, then there is no subsidy funding by means of tlelphony revenues. Lines 47 and 48 contain state by state intrastate revenues for use in calculating the optional state subsidy surcharge. Lines 52 through 54 and 56 through 58 contain Residence and Business Subscriber Lines for Tier 1 and RBOCs, respectively. Finally, Lines 60 and 61 contain state by state High Cost Fund information.

# 6. Worksheet "Report"

Worksheet "Report" describes a limited number of options for recovery of the subsidy, including the economic subsidy plus Lifeline and Linkup, less the Cellular License and Overearnings offsets (non Tier 1 support is not included in the calculations at this time.) As currently configured, Worksheet "Report" calculates a nationwide surcharge collected by carriers from end user customers on all industry retail revenue and also a nationwide surcharge assessed on carriers based on their total retail revenue. A second option calculates the level of surcharge based on retail revenue (end user and carrier) net of local revenue. If the components of the subsidy sum to less than zero, the subsidy is set at zero.

Worksheet "Report" also calculates a nationwide average optional state subsidy recovery using the same end user and carrier retail revenue assumptions. The actual charge for each state would be different. This calculation is intended to be illustrative only. Since the illustrative surcharge level is calculated on the basis of intrastate retail revenue in all states, the surcharge in most states which actually impose it would be higher because many states would not qualify for a surcharge because their rates are higher than the national affordable rate. As shown on Worksheet "State Report", the potential state subsidy recovery is offset by Yellow Pages earnings and the recovery is zero if excess Yellow pages earnings are greater than the calculated subsidy

### 7. Worksheet "State Report"

Worksheet "State Report" summarizes, for each state, the Hatfield unbundled elements, the monthly local service TSLRIC by density zone. It also summarizes the amount of economic subsidy, the number of households receiving the subsidy, and the subsidy per line in each density zone. The subsidies are summarized on the basis of the nationwide affordable rate, the actual state specific rate and the optional state specific subsidy.

Surcharges based on state specific intrastate retail revenues and state specific intrastate retail less local revenues are calculated for the recovery of the optional state specific subsidy. The total intrastate revenues have been approximated by "grossing up" the LEC intrastate revenues by the ratio of total industry intrastate revenue to total LEC intrastate revenue. Note again that the surcharge will be calculated as zero if the state specific yellow pages earnings exceed the calculated state subsidy.

#### 8. Worksheet "Total RBOC"

Worksheet "Total RBOC" contains the sums and weighted averages, as appropriate, of the data contained on the individual state reports contained in Worksheet "State Report".

#### 9. Worksheet "Appendix C"

Worksheet "Appendix C" documents the development of the nationwide retail revenue numbers used in the calculation of the surcharges. The primary basis for this development were the TRS reports filed by all carriers in January, 1996.

#### 10. Worksheet "Attachment 3"

Worksheet "Attachment 3" contains data on state specific rates and households. Cells A1 through H58 contain individual state rate data, developed as described in Appendix A, Pages 1 through 5 of this document. Cells A61 through H188 contain 1990 household data by state and density zone<sup>4</sup>. Cells A131 through H188 apply the factor developed on Worksheet "ARMIS" to adjust the 1990 household data to 1995 households with telephones. Cells T1 through AB162 would show vertical service revenue by state and density zone (no data has been inserted at this time). For "What if" purposes, a single

<sup>&</sup>lt;sup>4</sup> See Ex Parte statement of USWest, CC Docket 80-286, December 1, 1995.

hypothetical amount can be inserted in all cells based on the amount in Worksheet "Inputs" Cell B22. Cells J1 through R162 show the sum of the individual local rate and vertical service revenue, if any. Cells AD1 through AL162 show the individual state rates net of any vertical service revenue.

# 11. Worksheet "Capital Ratios"

Worksheet "Capital Ratios" documents the development of factors for use in adjusting Cost of Capital and income tax as applied internal to the Hatfield Model. The assumption is that the annual capital cost (return plus tax only) is directly related to % return and % tax. Return and Tax can be adjusted within this model as controlled by Worksheet "Inputs" Cells B18 and B20. These values plus the individual plant category life are used to calculate a baseline ratio of capital cost to investment. This ratio is shown on Worksheet "Hatfield", Line 213. When the Cost of Capital and Tax factors are changed on Worksheet "Inputs", new ratios of capital cost to investment are calculated and displayed on Worksheet "Hatfield", Line 214. Worksheet "Hatfield" uses these ratios to remove the baseline cost of capital (Line 213 times the specific investment from the Hatfield input data) and insert the revised cost of capital (Line 214 times the specific investment from the Hatfield input data). If the Delta Cost of Capital and Tax factors are set on Worksheet "Inputs" to 0% and 40%, respectively, there will be no change to the TSLRIC costs as input from the Hatfield Model.

#### **GLOSSARY**

TSLRIC - Total Service Long Run Incremental Costs.

SLC - Subscriber Line Charge.

Economic Subsidy - The sum, for each state, of the differences in each density zone between the Hatfield calculated TSLRIC monthly local service cost and the monthly national affordable local service rate, multiplied by the number of households in the density zone. If the affordable rate exceeds the TSLRIC cost in any density zone, there is no economic subsidy. Additionally, if the actual rate in a state exceeds the national affordable rate, the economic subsidy represents only the difference between the Hatfield TSLRIC monthly local service cost and the actual rate, if positive.

Optional State Recovery - A subsidy for which a state could impose a charge to recover an additional amount if the Hatfield monthly TSLRIC local service cost is greater than the actual state monthly local service rate and the actual rate is less than the national affordable rate. The optional state charge would be set to recover that portion of the difference between the Hatfield monthly local TSLRIC cost and the actual state local service rate which as not already recovered by the national surcharge.

Cost of capital - For purposes of this model, cost of capital includes a specified return on average net investment plus a gross-up for taxes.

# State Specific Rate Assumptions

1	Alabama	Zone 1 local exchange rate is based on an average of BS rate groups 1 and 2; Zone 2 is based on an average of BS rate groups 3 through 6; Zone 3 is based on BS rate group 7; and Zones 4 through 6 are based on BS rate group 8.
2	Arizona	Zones 1 through 6 local exchange rate is based on US West local exchange flat rate for all Arizona residence subscribers.
3	Arkansas	Zone 1 local exchange rate is based on SWB rate group 1; Zone 2 is based on SWB rate group 2; Zones 3 and 4 are based on rate group 3 and Zones 5 and 6 are base on rate group 4.
4	California	Zone 1 local exchange rate is based on a weighted average of Pacific rate groups 9 through 23. Zone 2 rate is based on a weighted average of Pacific rate groups 2 through 8. Zones 3 through 6 rate is based on Pacific rate group 1. The exchanges listed for each rate group indicate that the less populous exchanges have higher rates than exchanges in the more populous areas. This pattern is uncommon among the states.
5	Colorado	Zones 1 through 6 local exchange rate is based on US West local exchange flat rate for all Colorado residence subscribers.
6	Connecticut	Zones 1 and 2 local exchange rate is based on SNET rate group 1; Zone 3 rate is based on SNET rate group 2; Zone 4 rate is based on SNET rate group 3; Zone 5 rate is based on SNET rate group 4; and Zone 6 rate is based on SNET rate group 5.
7	Delaware	Zones 1 through 4 local exchange rates are based on BA rate group X and Zones 5 and 5 rate is based on BA rate group Z.
8	District of Columbia	Zones 1 through 6 local exchange rate is based on BA local exchange flat rate for all residence subscribers.
9	Florida	Zone 1 local exchange rate is based on a weighted average of BS rate groups 1 and 2; Zone 2 rate is based on a weighted average of BS rate groups 3, 4, and 5; Zone 3 rate is based on a weighted average of BS rate groups 6, 7, and 8; Zone 4 rate is based on BS rate group 9; Zone 5 is base on a weighted average of BS rate groups 10 and 11; Zone 6 is based on BS rate group 12.

10	Georgia	Zones 1 local exchange rate is based on BS rate group 2; Zone 2 rate is based on a weighted average of BS rate groups 2, 5 and 7; Zone 3 rate is based on BS rate group 7; Zones 4, 5, and 6 rate is based on BS rate group 12. The other BS rate groups were not used in 1994.
11	Idaho	Zone 1 local exchange rate is based on US West Northern Idaho rate group 1; Zone 2 rate is based on USW Northern Idaho rate group 2; Zone 3 rate is based on USW Southern Idaho rate group 1; Zone 4 rate is based on USW Southern Idaho rate group 2; and Zones 5 and 6 is based on USW Southern Idaho rate group 3.
12	Illinois	Zone 1 local exchange rate is based on Ameritech flat rate group 1; Zone 2 rate is based on Ameritech rate group 2; Zone 3 rate is based on Ameritech rate group 3; Zone 4 rate is based on Ameritech rate group 4; Zones 5 and 6 rate is based on Ameritech rate group 5. The Ameritech measured service rates are not reflected in any of rates used in the Zone analysis. The measured service rates are applicable to Chicago and its suburban areas and will result in rates higher than those used in this analysis.
13	Indiana	Zones 1 and 2 local exchange rate is based on Ameritech rate group 1; Zones 3 and 4 rate is based on Ameritech rate group 2; and Zones 5 and 6 rate is based on Ameritech rate group 3.
14	Iowa	Zones 1 through 6 local exchange rates are based on US West respective rate groups 1 through 6.
15	Kansas	Zone 1 local exchange rate is based on a weighted average of SWB rates for rate groups 1 and 2; Zone 2 rate is based on a weighted average of SWB rates for rate group 3 and 4; Zone 3 rate is based on SWB rate for rate group 5; Zone 4 rate is based on SWB rate for rate group 6; Zone 5 rate is based on SWB rate for rate group 7; and Zone 6 rate is based on SWB rate for rate group 8.
16	Kentucky	Zones 1 through 5 local exchange rates are based on SB respective rates for rate groups 1 through 5; Zone 6 rate is based on SB rate for rate group 5.
17	Louisi <b>ana</b>	Zone 1 local exchange rate is based on SB rate for rate group 1; Zone 2 rate is based on a weighted average of SB rates for rate groups 2 through 9; Zone 3 rate is based on SB rate for rate group 10; Zone 4 rate is based on the weighted average of SB rate for rate groups 11 and 12; Zone 5 rate is based on the weighted average of SB rate for rate groups 13 and 14; and Zone 6 rate is based on a weighted average of SB rate for Zones 15 through 19.
18	Maine	Zones 1 through 6 local exchange rates are based on NYNEX respective rate groups 1 through 6.

19	Maryland	Zones 1 through 4 local exchange rates are based on BA rate for rate group 1; Zone 5 rate is based on a weighted average of BA rates for rate groups 2 and 3; Zone 6 rate is based on BA rate for rate group 4.
20	Massachusetts	Zones 1 through 6 local exchange rate is based on NYNEX local exchange flat rate for all residence subscribers.
21	Michigan	Zones 1 through 3 local exchange rate is based on Ameritech rate for rate group A; Zone 4 rate is based on Ameritech rate for rate group B; Zone 5 rate is based on a weighted average of Ameritech rate for rate groups C and D; Zone 6 rate is based on a weighted average of Ameritech rate for rate groups E, F and G.
22	Minnesota	Zones 1 through 4 local exchange rate is based on US West rate for areas outside of Minneapolis/St. Paul. Zones 5 and 6 rate is based on US West rate for Minneapolis/St. Paul.
23	Mississippi	Zone 1 local exchange rate is based on BS rate for rate group 1; Zone 2 rate is based on a weighted average of BS rates for rate groups 2 through 8; Zone 3 rate is based on a weighted average of BS rates for rate groups 9 and 10; Zone 4 rate is based on a weighted average of BS rates for rate groups 11 and 12; Zones 5 and 6 rate is based on BS rate for rate group 13.
24	Missouri	Zones 1 and 2 local exchange rate is based on SWB rate for rate group A; Zone 3 rate is based on SWB rate for rate group B; Zone 4 rate is based on SWB rate for rate group C-Principle; Zone 5 rate is based on SWB rate for rate group C-MCA 1; Zone 6 rate is based on a weighted average of SWB rate for rate group D-Principal, D-MCA 1, and D-MCA 2.
25	Montana	Zones 1 through 6 local exchange rate is based on US West local exchange flat rate for all residence subscribers.
26	Nebraska	Zones 1 through 6 local exchange rate is based on US West local exchange flat rate for all residence subscribers.
27	Nevada	Zones 1 through 6 local exchange rate is based on Pacific local exchange flat rate for all residence subscribers.
28	New Hampshire	Zone 1 local exchange rate is based on NYNEX rate group 1; Zone 2 rate is based on a weighted average of NYNEX rates for rate groups 2 through 10; Zone 3 rate is based on a weighted average of NYNEX rates for rate groups 11 through 13; Zone 4 rate is based on a weighted average of NYNEX rates for rate groups 15 through 18; and Zone 6 rate is based on a weighted average of NYNEX rates for rate groups 19 through 21.

29	New Jersey	Zones 1 and 2 local exchange rates are based on BA rate for rate group A; Zones 3 and 4 are based on BA rate for rate group B; Zone 5 rate is based on BA rate for rate group C; and Zone 6 is based on BA rate for rate group D.
30	New Mexico	Zones 1 and 2 local exchange rates are based on US West rate for rate group 1; Zones 3 and 4 are based on US West rate for rate group 2; Zone 5 rate is based on US West rate for rate group 3; and Zone 6 is based on US West rate for rate group 4.
31	New York	Zones 1 through 5 local exchange rates are based on NYNEX respective rates for rate groups 1 through 5. Zone 6 rate is based on a weighted average of NYNEX rates for rate groups 6 through 10. The NYNEX measured service rates are not reflected in any of rates used in the Zone analysis. The measured service rates are applicable to New York City will result in rates higher than those used in this analysis.
32	North Carolina	Zone 1 local exchange rate is based on BS rate for rate group 1; Zone 2 rate is based on a weighted average of BS rates for rate groups 2 through 4; Zone 3 rate is based on a weighted average of BS rates for 5 and 6; Zone 4 rate is based on BS rate for rate group 7; Zone 5 rate is based on a weighted average of BS rates for rate groups 8 and 9; Zone 6 rate is based on BS rate for rate group 10.
33	North Dakota	Zones 1 through 5 local exchange rates are based on US West rate for rate group 1; Zone 6 rate is base on a weighted average of US West rates for rate groups 2 and 3.
34	Ohio	Zones 1 through 6 local exchange rate is based on Ameritech local exchange flat rate for all residence subscribers.
35	Okiahoma	Zones 1 through 3 local exchange rates are based on SWB respective rates for rate groups 1 through 3; Zone 4 rate is based on a weighted average of SWB rates for rate groups 4 and 5; Zone 5 rate is based on SWB rate for rate group 6; and Zone 6 rate is based on SWB rate for rate group 7.
36	Oregon	Zones 1 through 6 local exchange rate is based on US West local exchange flat rate for all residence subscribers.
37	Pennsylvania	Zones 1 through 5 local exchange rates are based on BA respective rates for rate groups 1 through 5; Zone 6 rate is based on a weighted average of BA rates for rate group 6 and 7.

38	Rhode Island	Zones 1 and 2 local exchange rate is based on NYNEX rate for rate group 1; Zone 3 rate is based on NYNEX rate for rate group 3; Zone 4 rate is based on NYNEX rate for rate group 4: Zone 5 rate is based on a weighted average of NYNEX rates for rate groups 5 through 12; Zone 6 rate is based on a weighted average of NYNEX rates for rate groups 13 through 21.
39	South Carolina	Zone 1 local exchange rate is based on BS rate for rate group 1; Zone 2 rate is based on a weighted average of BS rates for rate groups 2 through 4; Zone 3 rate is based on BS rate for rate group 5; Zone 4 rate is based on BS rate for rate group 6; and Zones 5 and 6 rates are based on BS rate group 7.
40	South Dakota	Zone 1 local exchange rate is based on US West rate for rate group 1; Zones 2 through 4 rates are based on US West rate for rate group 2; Zone 5 rate is based on US West rate for rate group 3; Zone 6 rate is based on a weighted average of US West rates for rate groups 4 and 5.
41	Tennessee	Zone 1 local exchange rate is based on BS rate for rate group 1; Zone 2 rate is based on a weighted average of BS rates for rate groups 2 and 3; Zones 3 through 5 rates are based on BS rate for rate group 4; and Zone 6 rate is based on BS rate for rate group 5.
42	Texas	Zones 1 through 4 local exchange rates are based on SWB respective rates for rate groups 1 through 4; Zone 5 rate is based on a weighted average of SWB rates for rate groups 5 through 7; and Zone 6 rate is based on SWB rate for rate group 8.
43	Utah	Zones 1 through 6 local exchange rate is based on US West local exchange flat rate for all residence subscribers.
44	Vermont	Zone 1 local exchange rate is based on NYNEX measured rate in rate group 1; Zone 2 rate is base on a weighted average of NYNEX measured rates in rate group 2 through 4; Zones 3 and 4 rates are based on NYNEX measured rate in rate group 5; Zones 5 and 6 rates are based on NYNEX respective measured rates in rate groups 6 and 7. Assumed Ind. Rate plus Local Usage Package Rate.
45	Virginia	Zones 1 through 4 local exchange rates are based on BA respective rates for rate groups 1 through 4; Zone 5 rate is based on a weighted average of BA rates in rate groups 5 through 7; Zone 6 rate is based on BA rate for rate group 8.
46	Washington	Zones 1 and 2 local exchange rates are based on US West rate for rate group 1; Zones 3 through 5 rates are based on US West rate for rate group 2; and Zone 6 rate is based on US West rate for rate group 3.
47	West Virginia	Zones 1 through 6 local exchange rate is based on BA local exchange flat rate for all residence subscribers.
48	Wisconsin	Zones 1 through 6 local exchange rate is based on Ameritech local exchange measured rate for all residence subscribers. Assumed the same usage for all customers — 100 five minute calls.
49	Wyoming	Zones 1 and 2 local exchange rate is based on US West rate for rate group 1; Zones 3 through 5 rate is based on US West rate for rate group 2; and Zone 6 rate is based on US West rate for rate group 3.

				1	DENSITY ZON	E		
STA	TE	<u>0-5</u>	<u>5-200</u>	200-650	<del>(30-85)</del>	850-2550	>2550	Average
Arkamees	Rate	\$15.61	\$17.01	\$18.41	\$18.41	\$19.81	\$19.81	\$18.20
	Households	24,468	225,084	103,237	38,853	171,602	14,727	577,970
Kansas	Rate	\$14.00	\$14.62	\$15.35	\$15.65	\$16.00	\$16.80	\$15.61
	Households	20,075	173, <b>703</b>	94,841	39,166	364,854	71,506	764,145
Miseouri	Rate	\$11.05	\$11.05	\$12.60	\$13.60	\$14.90	\$15.33	\$13.82
	Households	17,513	260,634	233,964	79,182	589,152	291,796	1,472,242
Oklahoma	Rate	\$12.97	\$13.52	\$14.37	\$14.82	\$16.47	\$17.09	\$15.25
	Households	33,607	237,133	124,564	60,182	396,923	75,427	927,835
Техаз	Rate	\$11.83	\$12.03	\$12.48	\$12.78	\$13.36	\$14.73	\$13.24
	Households	64,358	670,351	655, <del>269</del>	273,5 <del>99</del>	2,15 <b>5,68</b> 0	847,877	4,667,134
Illinois	Rate	\$15.54	\$16.68	\$17.69	\$20.24	\$20.24	\$17.67	\$18.55
	Households	4,497	260,129	345,183	154,451	1,116,775	1,522,106	3,403,143
Indiana	Rate	\$14.19	\$14.19	\$15.45	\$15.45	\$17.51	\$17.51	\$16.35
	Households	2,309	254 <b>,268</b>	203,005	83,860	509,197	194,567	1,247,206
Michigan	Rate	\$13.23	\$13.23	\$13.23	\$13.74	\$14.54	\$15.53	\$14.35
	Households	14,306	510,823	386,571	166,709	1,051,778	775,300	2,905,987
Ohie	Rate	\$19.59	\$19.59	\$19.59	\$19.59	\$19.59	\$19.59	\$19.59
	Households	296	311, <b>000</b>	328,922	132,802	<b>896,39</b> 3	719,794	2,389,206
Wisconsin	Rate	\$15.34	\$15,34	\$15.34	\$15.34	\$15.34	\$15.34	\$15.34
	Households	1,290	183,187	177, <b>669</b>	54,274	423,472	376,418	1,216,309
D of C	Rate	\$18.94	\$18.94	\$18.94	\$18.94	\$18.94	\$18.94	\$18.94
	Households	0	164	1,592	1,721	23,541	194,283	221,302
Delaware	Rate	\$18.09	\$18.09	\$18.09	\$18.09	\$18.29	\$18.29	\$18.19
	Households	69	74,171	45,903	16,171	79,507	50,595	266,416
Maryland	Rate	\$18.74	\$18.74	\$18.74	\$18.74	\$19.58	\$20.51	\$19.55
	Households	1,811	362,1 <del>69</del>	239,385	94,255	609,659	563,338	1, <b>870</b> ,617
New Jersey	Rate	\$11.09	\$11.09	\$11.79	\$11.79	\$12.29	\$12.53	\$12.19
	Households	906	212,621	350,022	145,365	927,382	1, <b>008</b> ,351	2,644,647
Pennsylvania	Rate	\$17.84	\$18.14	\$18.14	\$21.44	\$21.44	\$25.29	\$22.03
	Households	6,131	526, <b>80</b> 2	419,716	166,997	908,762	1,330,771	3,359,180
Virginia	Rate	\$12.01	\$13.62	\$14.39	\$15.07	\$16.28	\$18.32	\$15.82
	Househalds	2,082	356,089	242,756	112,115	706,544	356,400	1,775,987
West Virginia	Rate	\$40.49	\$40.49	\$40.49	\$40.49	\$40.49	\$40.49	\$40.49
	Households	5,963	296,805	78,434	20,853	111,250	43,994	557 <b>,29</b> 9

Alabama	Rate	\$18.39	\$19.41	***	e20.14	\$21.50	\$21.50	\$20.32
	Households	16,303	-	\$20.15	\$20.15		52,871	
		10,303	415,769	243,521	69,071	335,719	34,871	1,133,254
Florida	Rate	\$11.16	\$12.14	\$12.86	\$13.55	\$14.03	\$14.15	\$13.66
• • • • • • • • • • • • • • • • • • • •				312.60				
	Households	12,536	337,453	460,176	230,050	1,439,950	837, <b>86</b> 6	3,318,031
Georgia	Rate	\$16.00	\$17.14	\$18.15	\$20.95	\$20.95	\$20.95	\$19.16
	Households	15,008	558,842	465,493	184,977	6 <b>08,69</b> 5	123,794	1,956,808
		,	330,042	40,500	107,277	000,075	145,774	1,750,000
	_							
Kantocky	Rate	\$15.67	\$16.52	\$17.19	\$17.84	\$21.05	\$21.05	\$18.39
	Households	5,167	343,965	108,061	29,320	209,529	92,331	788,373
				•				
Louisiene	Rate	\$15.56	\$16.64	<b>615</b> 44	e12 ec	¢10.00	£10.01	*14 41
T-Section 1				\$17.44	\$17.86	\$18.28	\$19.01	\$17.73
	Households	32,431	384,205	207,010	73,011	412,103	249,724	1,358,485
Mississiusi	Rate	\$20.59	\$22.04	\$23.71	\$24.46	\$24.81	\$24.81	\$23.02
	Households	45,693	442,559	167,941	42,269	180,945	23,280	902,689
		15,675	442,333	107,541	74-407	104,545	43,460	702,007
North Carolina	Rate	\$14.19	\$14.85	\$15.44	\$15.9i	\$16.44	\$16.76	\$15.59
	Households	2,276	428,647	270,438	92,724	351,240	23,873	1,169,198
South Carolina	Rate	\$17.70	\$18.54	\$19.50	\$19.95	\$20.40	\$20.40	\$19.43
Seem Carenas								-
	Howsholds	4,933	311,518	196,955	74,924	214,970	27,943	831,243
Tennesper	Rate	\$11.05	\$12.19	\$15.35	\$15.35	\$15.35	\$15.65	\$14.25
	Households	8,016	530,563	326,915	94,707	459,181	108,987	1,528,370
		6,010	230,303	340,713	77,707	737,161	100,767	1,328,370
Massachusetts	Rate	\$21.19	\$21.19	\$21.19	\$21.19	\$21.19	\$21.19	\$21.19
	Howesholds	566	350,877	420,618	138,434	559,240	857,915	2,327,650
					·	·	•	. ,
Malas	Dan	P14 P5	616.24	#16.61	216 M	#14 A#	<b>*</b> 17.20	616.74
Maine	Rate	\$14.85	\$15.24	\$15.61	\$16.02	\$16.45	\$17.30	\$15.74
	Households	6,556	195,194	64,054	13,627	58,724	42,818	380,972
New Hampshire	Rate	\$14.46	\$15.99	\$17.44	\$18.00	\$17.51	\$19.98	\$16.82
•	Households	4,533	187,639	83,064	8,419	56,731	21,497	361,883
	(17-17-17-17-17-17-17-17-17-17-17-17-17-1	4,233	167,037	65,004	0,717	30,731	21,477	301,003
New York	Rate	<b>\$16.79</b>	\$17.48	\$18.17	\$14.88	\$19.62	\$21.56	\$20.47
	Households	8,082	615,687	418,399	158,465	1,012,353	3,620,743	5,833,729
Rhode Island	D-4-	<b>9</b> 16.64	<b>916 64</b>	e14 70	#14 #0	#17.7¢	\$20.76	618.43
Kinest 13mma	Rate	\$16.64	\$16.64	\$16.78	\$16.89	\$17.35		\$18.42
	Households	32	53,148	52,981	17, <b>48</b> 6	122,831	144,957	391,436
Verment	Rate	\$17.49	<b>\$20</b> .13	\$21.79	\$21.79	\$22.89	\$23.69	\$21.04
	Households	3,427	102,934	25,235	4,396	21,815	16,333	174,140
		3,447	102,734	23,433	4,590	21,013	دديوا	174,140
Alaska	Rate							
	Households							
0.116. 1		414 49	414.43	#14.40	\$15.59	\$15.59	\$15.59	\$15.60
California	Rate	\$16.87	\$15.63	\$15.59				
	Households	66,747	664,905	901, <del>59</del> 2	348,104	3, <b>055,859</b>	3,1 <b>64,699</b>	8,201,906
					_			
Hawaii	Rate				•-			
114 7 411		•	•	•	•		•	
	Households	0	0	0	0	0	0	
Nevada	Rate	\$14.34	\$14.34	\$14.34	\$14.34	\$14.34	\$14.34	\$14.34
	Households	13,484	28,023	22,451	2,153	50,194	41,530	157,836
		,	,	,	_,		-,	
	_	***		***		210 22	410.00	<b>215</b> A1
Connecticut	Rate	\$14.87	\$14.87	\$15.87	\$16.87	\$17.87	\$18.87	\$17.01

	Households	2	237,481	281,738	72,642	360,635	286,726	1,239,224
Arizona	Rate	\$15.90	\$15.90	\$15.90	\$15.90	\$15.90	\$15.90	\$15.90
	Households	43,526	167, <b>998</b>	167,070	67,231	704,589	351,640	1,502,053
Colorado	Rate	\$18.29	\$18,29	\$18.29	\$18.29	\$18.29	\$18.29	\$18.29
	Households	38,523	188,905	155,859	66,296	586,785	335,273	1,371,640
Idaho	Rate	\$12.00	\$13.50	\$13.64	\$14.54	\$15.53	\$15.53	\$14.33
	Households	23, <del>599</del>	79,535	51,126	13,881	108,560	18,322	295,024
Montana	Rate	\$17.34	\$17.34	\$17.34	\$17.34	\$17.34	\$17.34	\$17.34
	Households	18,043	47,096	29,390	7, <b>726</b>	67,146	22,095	191,4 <del>9</del> 6
New Mexico	Rate	\$14.30	\$14.30	\$15.95	\$15.95	\$17.58	\$19.20	\$16.58
	Households	28,770	105,948	<b>82,03</b> 1	20,650	182,132	71,762	491,293
Utah	Rate	\$11.48	\$11.48	\$11.48	\$11.48	\$11.48	\$11.48	\$11.48
	Households	18,293	87,647	81,876	33,497	274,825	95,083	591,221
Wyoming	Rate	\$16.98	\$16.98	\$18.05	\$18.05	\$18.05	\$18.98	\$17.67
	Households	848	1,816	1,077	151	2,118	416	6,425
lewa	Rate	\$14.45	\$14.95	\$16.45	\$16.45	\$16.95	\$18.45	\$16.48
	Households	16,766	169,324	109,284	34,099	273,454	86,957	689,384
Minnesota	Rate	\$17.35	\$17.35	\$17.35	\$17.35	\$18.92	\$18.92	\$18.29
	Households	22,524	225,701	178,442	<b>\$</b> 3,655	451,965	304,629	1,266,917
North Dakets	Rate	\$14.39	\$14.39	\$14.39	\$14.39	\$14.39	\$15.89	\$14,59
	Households	23,534	35,785	20,467	5,889	48,282	20,653	154,609
Nebraska	Rate	\$18.40	\$18.40	\$18.40	\$18.40	\$18.40	\$18.40	\$18.40
	Heusehelds	17,853	64,992	29,971	16,011	138,532	59,721	327,079
South Dakota	Rate	\$16.34	\$17.04	\$17.04	\$17.04	\$17.84	\$19.29	\$17.36
	Howeholds	32,932	61,106	21,672	8,444	59,983	17,457	201,597
Огодоп	Rate	\$16.30	\$16.30	\$16.30	\$16.30	\$16.30	\$16.30	\$16.30
	Heuseholds	25,336	137,348	84,561	38,112	320,193	183,949	789,500
Washington	Rate	\$12.25	\$12.25	\$12.25	\$12.25	\$13.00	\$13.50	\$12.87
	Households	22,120	184,298	194,000	79,351	547 <b>,87</b> 6	357,770	1,385,415
Total	Rate	\$15.48	\$16.50	\$16.42	\$16.81	\$16.89	\$18.22	\$17.11
	Households	778,638	12,662,044	9,954,500	3,770,327	24,319,624	20,100,869	71, <b>58</b> 6,003

Listed below are the current entries on Worksheet "Inputs" and their purpose:

RBOC/LEC Switch This value determines whether state totals from the ARMIS

worksheet are total Tier 1 or RBOC only. (This value is currently set for RBOC only and should remain so until such time as the Hatfield data is updated to include total Tier 1.

Vertical Services Switch

This value enables the user to exclude vertical services from

consideration even though the vertical service revenue range

on Worksheet "Attachment 3" contains values.

Total Residence Lines Total Residence Lines, from ARMIS.

Total Business Lines Total Business Lines, from ARMIS.

Retail Revenues Total telecommunications revenues derived from end users.

Intrastate Retail Revenues Total telecommunications revenues derived from end users

and assigned to the intrastate jurisdiction.

Local Revenues Total telecommunications revenues derived from end users

and classified as local service.

Intrastate Retail - Local Revenues Total telecommunications revenues derived from end users

and NOT classified as local service.

Delta SLC/Mo Changes in SLC assumed as part of a scenario under study.

Delta Cost of Capital The change in embedded % cost of capital assumed for the

TSLRIC data in the scenario under study.

Delta Variable Overhead The change in embedded % variable overhead assumed for the

TSLRIC data in the scenario under study.

Tax Factor The % tax factor assumed for capital cost development in the

scenario under study.

National Affordable Local Rate/Mo The rate level, including SLC and TouchTone, which defines

the eligibility of lines in each state density zone for the

national high cost subsidy. The assumed value is \$20.00 per month. The user can, however, change this amount as appropriate to the

scenario under study.

Weighted Ave Vertical Service Rev The weighted per month per household (with telephones)

nationwide average vertical service revenue.

Yellow Pages Earnings (\$M) The estimated excess nationwide earnings from Yellow Pages

revenues.

Cellular License Value (\$M) The estimated annualized value of LEC (RBOC) cellular

licenses.

Aggregate Overearnings The difference between 1995 RBOC plus SNET interstate

actual return and return at 11.25%, grossed up for taxes,

based on 492 reports filed in April, 1996.

# RETAIL REVENUES (\$M)

Source: 1994 TRS Report, Table 3, released 1/96)

	Total	Interstate	Intrastate
TRS Total	\$183,915	\$80,394	\$103,521
Access	\$34,683	\$24,619	\$10,064
less end user charges	\$7,242	\$5,294	\$1,948
T1-Total	\$6,783		
T1 Adj Factor (Ln.18)	93.65%		
Net Access	\$27,440	\$19,325	\$8,115
Alternative Access & Other	\$8,321		\$7,168
TRS Retail Revenues	\$148,154	\$61,069	\$88,238
Local Revenues			\$63,983
less Alt Acc & Oth			\$7,168
Net Local Revenues			\$56,815
Retail less Local Revenues			\$29,475

# Development of EUCL adj Factor by estimating amount of Tier 1 EUCL Rev

Line	<u>Itam</u>	Amount	Source .
1	Tier 1 USF Loops	137,740,551	USF Data Submission of 1994
2	Non-Tier 1 USF Loops	10,449,869	USF Data Submission of 1994
3	Total Loops	148,190,420	Line 1 + Line 2
4	Proportion Tier 1 Business Lines	37.25%	Annual Tier 1 Telco Data
5	Proportion Tier 1 Residence Lines	62.75%	Annual Tier 1 Telco Data
6	Proportion Non-Tier 1 Business Lines	18.32%	REA Statistical Summary
7	Proportion Non-Tier 1 Residence Lines	81.68%	REA Statistical Summary
8	Tier 1 Business Lines	51,303,327	Line 1 * Line 4
9	Tier 1 Residence Lines	86,437,224	Line 1 * Line 5
10	Tier 1 Business EUCL	\$307,819,962	Line 8 * \$6.00
11	Tier 1 Residence EUCL	\$302,530,284	Line 9 * \$3.50
12	Total Tier 1 EUCL	\$610,350,246	Line 10 + Line 11
13	Non-Tier 1 Business Lines	1,914,491	Line 2 * Line 6
14	Non-Tier 1 Residence Lines	8,535,378	Line 2 * Line 7
15	Non-Tier 1 Business EUCL	\$11,486,949	Line 13 * \$6.00
16	Non-Tier 1 Residence EUCL	\$29,873,821	Line 14 * \$3.50
17	Total Non-Tier 1 EUCL	\$41,360,770	Line 15 + Line 16
18	Proportion Tier 1 EUCL of Total EUCL	93.65%	Line 12 / (Line 12 + Line 17

# UNBUNDLED ELEMENTS/UNIVERSAL SERVICE REFORM

# ASSUMED VALUES

RBOC/LEC Switch=	1
Vertical Services Switch=	0
Total Res Lns (M)	98.39
Total Bus Lns (M)	36.42
Retail Revenues (\$M)	\$148,154
Intrastate Retail Revenues (\$M)	\$88,238
Local Revenues (\$M)	\$63,983
Intrastate Retail - Local Revenues (\$M)	\$29,475
Delta SLC/Mo	\$0.00
Delta Cost of Capital	0.00%
Delta Variable Overhead	0.00%
Tax Factor	40.00%
National Affordable Local Rate/Mo	\$20.00
Weighted Average Vertical Service Rev/Mo	\$0.00
Yellow Pages Earnings (\$M)	\$2,000
Cellular License Value (\$M)	\$1,000
Aggregate Overearnings (\$M)	\$1,072

RETAIL REVENUE SUNCHARGE (EU) 0.181		RETAIL REVENUE SURCHARGE (EU) 0.00%		ECONOMIC SUBSIDY (\$H) \$849.23		
				NA TIER 1		
REPARTE LOC REVISED (EU)  0.53%		ARTOLIA-LOC ARTOLIA SUNCIAAGE (EU) 0.00%		LOW INCOME SUBSIDY (\$40) 5141.86	·	
	OPTIONAL STATE SPECIFIC SUBSIDY RECOVERY HECHANISMS		NATIONAL SUBSIDY RECOVERY MECHANISMS	CELLANIAN LICENSE 6 OVEREAMINGS OFFICETS (80) \$2,072.35	SCHMARIO	CHRONDIED ELEMENTS/UNIVERSAL SERVICE REPORT
	RY PECHANISMS		ECOVERY MECHANISHS	00.00 XATSENS XATSENS 1663	OTEN	VERSAL SERVICE REPOR
RETAIL REMEMB SUBCOMME (CAME) 0.18%		ARTHAIL ANNUAR (CASA) 0.001		OPPICANAL BEANE BANCIPIC BOSHONIC BOSHONIC BAN S1,078.49		#
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RETAIL-140C INVERSES SURCIDARIOS (CAUDA) 0.53%		1000 1000 1000 1000 1000 1000 1000 100		##2 578428 54862100 (\$40) \$156, 65		

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